

# KNOWLEDGE

VOL 3 MARCH 2009

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

## RESPECT THE WEATHER

p. 8

» **GOT ATTITUDE?** p. 10

» **DANGEROUS LOADS** p. 14

» **SETTING THE STAGE** p. 24



**WHAT'S YOUR POISON?** p. 18



ARMY STRONG



U.S. ARMY COMBAT READINESS CENTER  
<https://safety.army.mil>

**ARMY SAFE  
IS ARMY STRONG**



# KNOWLEDGE

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

## contents

2 From the CSM

4 Respect the Weather

GOT AN  
ATTITUDE?

12 Reducing the Rollover Risk

18 What's Your Poison?

22 Saved by the Helmet

26 Looking Out for My Son

28 A Crushing Decision

14 THE DANGERS OF  
UNIQUE LOADS

30 Forklifts – Slow But Deadly

34 The Deer Catcher

36 Accident Briefs

*Must pull-out posters*

24 SETTING THE  
STAGE FOR  
SUCCESS



U.S. ARMY COMBAT READINESS/SAFETY CENTER

<https://safety.army.mil>

Brig. Gen. William T. Wolf, Commander/Director of Army Safety

Col. Glenn W. Harp, Deputy Commander

Command Sgt. Maj. Tod L. Glidewell, Command Sergeant Major

Bill Zaharis, Executive Director, Future Operations

James Yantis, Director, Strategic Communications

Chris Frazier, Managing Editor

Bob Van Elberg, Editor

Paula Allman, Editor

Tierri Helus, Editor

Blake Grantham, Graphic Design

Taryn Gillespie, Graphic Design

Leslie Cox, Graphic Design

Kami Lisenby, Graphic Design

**Mission statement:** USACRC supports our Army by collecting, storing, analyzing, and disseminating actionable information to assist Leaders, Soldiers, Families, and Civilians in preserving/protecting our Army's combat resources.

We welcome your feedback. Please e-mail comments to [safe.knowledge@conus.army.mil](mailto:safe.knowledge@conus.army.mil).

Knowledge is published monthly by the U.S. Army Combat Readiness/Safety Center, Bldg. 4905, 5th Ave., Fort Rucker, AL 36362-5362. Address questions regarding content to the managing editor at (334)255-2287. To submit an article for publication, e-mail [safe.knowledge@conus.army.mil](mailto:safe.knowledge@conus.army.mil) or fax (334)255-9044. We reserve the right to edit all manuscripts. Address questions concerning distribution to (334)255-2082. Visit our Web site at <https://safety.army.mil>.

Knowledge provides a forum for Soldiers, Leaders and safety professionals

to share best practices and lessons learned and maintain safety awareness. Information in Knowledge is not necessarily the official views of, or endorsed by, the U.S. Government, the Department of Defense, or the U.S. Army. Contents are specifically for accident prevention purposes only. Photos and artwork are representative and do not necessarily show the people or equipment discussed. Reference to commercial products does not imply Army endorsement. Unless otherwise stated, material in this magazine may be reprinted without permission, please credit the magazine and author.



**B**ike Week – the unofficial launch of the riding season – kicked off Feb. 27 at Daytona Beach, Fla. Anticipating the new riding season, many of our Soldiers, Family members and civilians are gearing up to take to the open road. As I travel in this job, there are several statements I hear motorcycle riders repeating throughout the Army. Some of those are myths and some are facts. Before you let the wind fly through your hair, I would ask you to consider a few things.

### 1. Motorcycles are cheaper than cars. — True.

But you wouldn't look as cool driving a new car that only cost \$11,000 as you would on the bike for the same price. However, you must figure in the cost of insurance for the average 24-year-old rider on a sportbike at \$175 to more than \$500 per month. Then, if you "ride like you stole it" 50 percent of the time, that will cut your gas mileage and increase tire wear by a third. With those expenses factored in, now you're in the same monthly price range as a Jeep or Honda Civic.

**2. Motorcycles are safe – it's the "other guy" that causes accidents. — False.** Although "cage drivers" (operators of four-wheeled vehicles) do pose a risk and are responsible for many accidents with motorcyclists, the "other guy" was at fault in only five of 51 Army fatalities in fiscal 2008.

**3. Motorcycling provides freedom. — True.** Motorcycling can provide freedom and escape. It's just you and the road as you motor along, leaving your problems behind. But know the potential cost of that freedom. According to the National Transportation Safety Board, "Motorcyclists represented 2 percent of the traffic on America's highways in 2007, but they represented 12 percent of highway fatalities."

**4. Army rules don't apply off post. — False.** A lawful order applies on and off duty, as well as on and off post. There are no military installations that allow service members to ride without the required

# LONG MYTHS

“**BEING an EDUCATED and EXPERIENCED rider is one of the BEST things YOU can DO to PROTECT yourself.**”



personal protective equipment (PPE) outlined in Army Regulation (AR) 385-10. This applies to National Guardsmen both on and off duty and regardless of individual state laws. Army reservists also are required to wear PPE whenever they are in a duty status. However, you're a Soldier 24/7, and it would help build the case to get the same benefits as active duty personnel if the same rules are applied across the board.

**5. If I have an accident, TRICARE will pay for it. — True.** However, if a Line of Duty determination, as covered in AR 600-8-4, finds misconduct on your part by not wearing your PPE, you could be held liable for your medical bills. In addition, you are still subject to local laws and the uniform code of military justice on top of that.

**6. I've ridden on and off for years and don't need to take any training. Heck, I could teach the course. — False.** You may have ridden in the past; however, bike designs, handling characteristics and power-to-weight ratios have changed. Besides, if you're that knowledgeable, maybe you could share your experience with other riders through your local Motorcycle Mentorship Program.

**7. Soldiers should be restricted from riding motorcycles, just like professional athletes are during their game season. — False.** Although some Leaders have advocated this, all it would do is drive motorcyclists underground and

outside the gates, where we would have even more issues. In reality, we need to bring more high-energy and thrill-seeking activities and events back to installations, where we can ensure Soldiers, Families and civilians can enjoy these activities safely. Skateboarding, skydiving and riding ATVs, motorcycles and personal watercraft is no more dangerous than horseback riding when supervised. However, these activities aren't often found on post.

**8. The dealership will help me pick the right bike for me. — False.** Reputable dealers will help you pick a bike; however, they are in the business of selling motorcycles. Most dealers will not refuse to sell you a motorcycle because they know if they don't you will shop elsewhere. Many first-time buyers purchase more bike than they're ready for – one that fits their ego, not their level of riding experience. Get with your Motorcycle Mentorship Program or, better yet, attend the Motorcycle Safety Foundation's Basic RiderCourse<sup>SM</sup>. There, experienced riders with your best interests in mind will help you select the bike that's best for you.

**9. Thrill-seeking and high-risk behavior is killing Soldiers. — False.** Indiscipline is the No. 1 killer of Soldiers. On duty, we lost 54 Soldiers to accidents last year, including those serving in two combat theaters. I think you would all agree that requires high-risk behavior. Off duty, we lost 154 Soldiers to accidents, 130

of which were privately owned vehicle (POV) fatalities. A large percentage of these POV accidents were the result of indiscipline or lack of experience. Speeding, loss of control and not wearing protective gear (i.e., seat belts and helmets) were the major causal factors in these fatalities.

**10. Those getting killed on motorcycles are 18 years old and have just returned from Iraq. — False.** For the last two years, Leaders have led the way in motorcycle fatalities. To be more specific, specialists and staff sergeants age 22 to 33 led the way in Army motorcycle fatalities. More than 80 percent of these fatalities involved indiscipline (speeding) and loss of control while riding a sportbike. When it comes to sedans, younger Soldiers age 17 to 24 accounted for 74 percent of the fatalities. Of that group, nearly half were either speeding or not wearing their seat belt.

Know the facts and use them to make positive risk decisions. Being an educated and experienced rider is one of the best things you can do to protect yourself. Also, a word of advice: slow down. Don't be in a big hurry to get into an accident. «

*Tod L. Glidewell*

**Tod L. Glidewell**  
Command Sergeant Major  
U.S. Army Combat Readiness/  
Safety Center



# RESPECT THE WEATHER

LT. COL. BRUCE A. LAMBERT  
U.S. Air Force  
Washington, D.C.

**I** know pilots receive training on the dangers of thunderstorms, as well as I know weather forecasters and briefers pass on the necessary hazards forecast for the pilots' risk management assessment. Yet, some pilots still think they can safely fly through thunderstorms or use their radar to navigate their way through thunderstorms. Being in Air Force (AF) Weather, I have seen my share of pictures of hail-damaged aircraft pilots decided to fly through a thunderstorm. As aviators, we must take thunderstorm safety seriously.



## DID YOU KNOW?

According to the National Weather Service –

- About 45,000 thunderstorms occur each day around the world.
- The United States experiences about 100,000 thunderstorms annually, of which, about 10 percent are classified as severe.
- A typical thunderstorm is about 15 miles in diameter and lasts about 30 minutes.
- Lightning strikes the Earth 25 million times per year.

# THER





## Introduction to Thunderstorms

Almost every second, on average, a lightning strike between the ground and a cloud occurs in the United States. More than 100 lightning strikes take place every second above Earth where over 44,000 thunderstorms are occurring at any given moment, which presents a significant hazard to aviation and ground operations. Therefore, there is a good chance you'll encounter a thunderstorm within the next month or two. During that encounter, you will face the many and powerful

hazards of a thunderstorm, including strong winds and windshears, heavy precipitation, lightning, hail and tornadoes. Are you ready?

The weather forecaster's definition of a thunderstorm is pretty basic, yet misunderstood by many. A thunderstorm is any local storm with lightning and thunder produced by a cumulonimbus cloud, usually producing gusty winds, heavy rain and, sometimes, hail. However, the only official criterion a weather observer uses to identify a thunderstorm is thunder. That's all, just thunder,

according to the handbook published for observers.

Cumulonimbus clouds are vertical columns of cloud mass with rain descending from them, which could potentially be thunderstorms. But technically, until the first thunder is heard, it is not a thunderstorm.

## Avoiding the Thunderstorm in Flight

Thunderstorms are laden with a myriad of unacceptable environmental hazards to aviation. In simpler terms, avoid thunderstorms while flying your aircraft. But how do you do that? The first

### Federal Aviation Administration's Guideline For Aircraft Reflectivity

From FAA Advisory Circular 0045C

| VIP Level* | Echo Intensity | Precipitation Intensity | Rain rate (in/hr) in stratiform clouds | Rain rate (in/hr) in convective clouds |
|------------|----------------|-------------------------|--|--|
| 1 green    | Weak           | Light                   | less than 0.1                          | less than 0.2                          |
| 2 yellow   | Moderate       | Moderate                | 0.1 - 0.5                              | 0.2 - 1.1                              |
| 3 red      | Strong         | Heavy                   | 0.5 - 1.0                              | 1.1 - 2.2                              |
| 4 red      | Very Strong    | Very Heavy              | 1.0 - 2.0                              | 2.2 - 4.5                              |
| 5 red      | Intense        | Intense                 | 2.0 - 5.0                              | 4.5 - 7.1                              |
| 6 red      | Extreme        | Extreme                 | more than 5.0                          | more than 7.1                          |

\*VIP Level refers to the Video Integration Processor, which interprets the reflected energy and provides a location and color to the return for display on the monitor.

technique is the old "see and avoid" concept. Look out of the cockpit for signs of convective activity. The

Radar will not sense the following: small cloud droplets, fog, ice crystals or small, dry hail or graupel

## “ The **WEATHER FORECASTER'S** **DEFINITION** of a **THUNDERSTORM** is pretty **BASIC**, yet **MISUNDERSTOOD** by many. ”

following is a short list of things to look for that give evidence of convective turbulence, lightning, hail, downbursts, microbursts and severe windshears:

- Anvil cloud form approaching
- Darkened color to clouds
- Churning vertical clouds
- Vertical clouds that are growing

The next step is to use the weather radar (if you have one) while airborne. Not every weather hazard in a thunderstorm is visible on weather radar. Since the radar is dependent on the return of reflected electromagnetic radiation, the ability of a particular hazard to reflect the beam will have a direct impact on what we can sense. See the Federal Aviation Administration's (FAA's) guideline for aircraft reflectivity on page 6.

(granular snow pellets). This list is significant for three reasons. First, if you are using your weather radar to scan your flightpath for weather that is out of visual range (150 to 200 NM), you may paint a group of individual cells and conclude you could visually circumnavigate them. In reality, you may be facing a wall of clouds with embedded thunderstorms. Second, the low reflectivity of the surrounding clouds may not show up on the radar, creating the false impression that there is a "hole" in the clouds. Finally, the anvil portion of a thunderstorm does not appear on radar since it consists primarily of ice crystals.

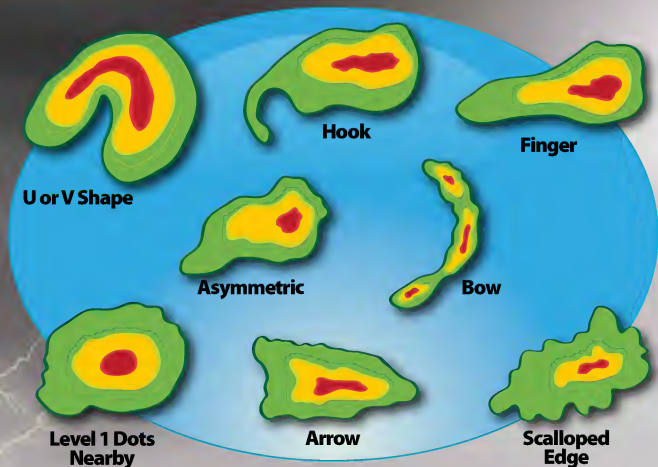
Since radar is our primary method of sensing thunderstorms, it is important to know how each type of precipitation affects what the radar displays. The chart

of reflectivity from least reflective precipitation to the most reflective precipitation shows us that "bigger and wetter" is more reflective than "smaller and drier." (See graphic on page 8.)

Depending on the precipitation type and its movement, recognizable thunderstorm patterns will show where the hazards are. It's important to know what to avoid on our radar screens.

■ Avoid a target with a dry intrusion (drier air being sucked into the thunderstorm) giving it a V or U shape. There are several reasons for this. Severe thunderstorms have dry air mixing in the middle altitudes which can create an intrusion. Hail rising and descending in a thunderstorm would also appear as a missing area cut out from the storm.

■ Avoid a target with a hook or bow shape. Hook



shapes are indicative of rotations taking place within severe thunderstorms. This is a strong clue to ground weather observers that hail and tornadoes are possible.

- Avoid a target with protruding “fingers.” Like a hook, a finger shows strong possibilities for tornadoes and hail.

- Avoid a target with an asymmetric coloring and shape. Remember, severe storms created by windshears aloft will tilt to one side. This gives shapes and colorings that are not even or concentric.

- Avoid a target with an arrow shape. Again, this is

indicative of a storm with tilt and the possibility of severe hazardous weather.

- Avoid a target with scalloped edges. Scalloped edges show turbulent motions taking place within the cloud. There is also a good chance for hail here.

- Avoid a target with changing shapes. Rapidly growing shapes show rapid motions taking place within the cloud. Turbulence will almost always take place under these conditions.

- Avoid a target storm with a few Video Integration Processor (VIP) Level 1 dots showing nearby. Many times, hail falls outside of

the thunderstorm. Checking the winds at altitude and correlating it to the side of the storm that hail will fall should help identify that potential hazard.

### Flying Techniques to Remember

Publications from the FAA and USAF give aviators numerous tips and techniques to help with that occasional encounter with a thunderstorm – some of which are important enough to repeat again.

- Don’t fly over thunderstorms. Storms can grow rapidly through your altitude, producing



# NEW LOOK, GREAT INFORMATION

severe turbulence. Also, hail can shoot through the top of the thunderstorm in clear air above and fall downwind.

- Don't fly under the anvil, where hail damage and lightning can occur.

- Don't fly into virga, where turbulence is likely.

- Avoid all thunderstorms by 20 miles or more since lightning and hail have been known to extend that far from the clouds.

- Weather warnings are for thunderstorms defined as "severe." These storms produce three-quarter-inch hail, tornadoes or 50-knot wind gusts. A lot of damage can occur in thunderstorms that are not flagged by warnings or a SIGMET (significant meteorological report).

If you have to penetrate:

- Go straight. Don't turn around.

- Avoid the altitudes with temperatures of plus/minus 8 C.

- Don't chase altitude. Hold your attitude and watch airspeed.

- Use all anti-icing equipment.

- Turn all lights in the cockpit on full and lock shoulder harnesses.

## Conclusion

Thunderstorms are one of nature's most hazardous phenomena. They can impact aviation from windshears, lightning, heavy precipitation, tornadoes and severe turbulence to hail. Knowing how to recognize and avoid thunderstorms and their hazards is one of the most important lessons of aviation weather training. Think safety and fly safe. <<



U.S. ARMY COMBAT READINESS/SAFETY CENTER

<https://safety.army.mil>

Visit our new Web site to find easily accessible information and tools that can assist you in keeping our Band of Brothers and Sisters

**ARMY SAFE**



ARMY SAFE  
IS ARMY STRONG



# Got an Attitude

CHIEF WARRANT OFFICER 2 JAMES J. MCDEVITT  
Company A, 1st Battalion, 155th Aviation  
Missouri Army National Guard  
Whitman Air Force Base, Mo.

I can remember it like it was yesterday – the day I nearly killed myself and my best friend while driving to a favorite turkey hunting spot.

My friend and I worked for a concrete construction company that usually gave us the day off during bad weather. On this particular day during the height of Missouri's turkey season, it was pouring rain. We were anticipating the boss letting us off for the day and were eager to be released so we could go hunting. After about 15 minutes, we received the word, "No work today."

We always prepared for these moments, especially during hunting seasons, and had all the necessary equipment ready for an expeditious move out. We jumped into my Toyota Tacoma pickup and took off like a shot.

a crucial time because it sets the pace and gives either the hunter or the hunted the upper hand. Once the male, or "Tom" turkey, gets together with a hen, it's tough to call him to you because he already has what he wants.

On our way to the hunting spot, we crossed a bridge over a swollen creek. We were amazed at how high the water was compared to normal. We traversed this road often, so we knew the water was sure to be just as amazing farther ahead at the low-water crossing. Little did we know! So we pressed on.

When we arrived, it was unbelievable – like something

it – I can make it!" attitude and drove a little farther, testing the depth as we went. My friend, who typically taunted others to "go for it" – especially when it wasn't his vehicle – was silent.


We were now more than halfway across the rushing water, which was three-quarters the way up my door. At that point, we were committed – there was

I had a '**SCREW IT** – I can make it!' **ATTITUDE** and drove a little **FARTHER, TESTING** the **DEPTH** as we went.

It was getting close to daylight, so we were in somewhat of a hurry to beat the turkeys off the roost. We wanted to be set up in position before the turkeys flew down out of the trees where they'd spent the night. This was

out of the movie "Deliverance." I hesitated as I eased the front tires into the water. As I did, I thought about how the hunting spot was only 100 meters on the other side and how long it would take to go around. I had a "Screw





# Dude?

no turning back. We had almost made it across when the truck began shifting and sliding with the rushing water. My friend nervously said, "Dude, hit the gas!" I barked back, "Dude, I've got it flooded!" However, the truck couldn't move any faster because the rear tires were floating. Fortunately, at the last possible moment, the tires grabbed and we made it to

the other side. We both let out a sigh of relief and my friend said, "Holy crap, dude! We made it, but don't ever do that again!" We made up our minds to take the long way home and never to try crossing high water again.

The point of this story is to avoid having a "Screw it – I can make it!" attitude toward taking needless risks. Life is too short and

too many people care about you to afford that kind of attitude. Do at least a mental risk assessment on everything you do – even the things you do in your normal, daily life. And remember to watch out whenever somebody with a cocky attitude says, "Screw it – I can make it!" That means someone is about to get hurt or killed. Try not to be that someone.◀

## ARE YOU ALL WET?

Just because "Pontiac" and "personal watercraft" (PWC) both start with a "P" doesn't mean they're equally good at handling water. While PWC are designed to run swiftly on water, cars are designed to run swiftly on asphalt. Before trying to part the waters with your ride, take a look at the information below from the National Oceanic and Atmospheric Administration.

• Water weighs 62.4 pounds per cubic foot and normally

flows downstream at 6 to 12 mph.

• When a vehicle stalls in the water, the water's momentum is transferred to the car. For each foot the water rises, 500 pounds of lateral force is applied to the car.

• Two feet of water will carry away most automobiles. The biggest factor is buoyancy. For each foot the water rises up the side of the car, the car displaces 1,500 pounds of water – essentially, your car

weighs 1,500 pounds less. Drive a Nissan Altima? Do the math. At a curb weight of 3,112 pounds, a couple feet of water is all it will take to have it "tip-toeing" on its tires. With 1,000 pounds of water pressure "nudging" it along, your car could end up going where it has never gone before.

• Think you can't get in trouble out in the dry southwest? Ever heard of arroyos? Those are water-carved gullies or normally dry creek

beds. In some places, roads – both paved and unpaved – run across arroyos. During heavy rains, these can rapidly fill with fast-moving water. For example, researchers monitoring an arroyo in Arizona saw it go from clear to flash-flood conditions in less than a minute.◀

# REDUCING THE

**DARYL LUSK**  
2nd Brigade Combat Team, 3rd Infantry Division  
Fort Stewart, Ga.



# ROLLOVER RISK

**I**ntroduction of the Mine Resistant Ambush Protected (MRAP) family of vehicles has reduced battlefield casualties caused by improvised explosive devices (IEDs) and landmines. Because of expedited fielding of the MRAP fleet, however, not all potential hazards and risks were known to project managers or fielding teams. Therefore, it is imperative Leaders incorporate lessons learned when supervising the operation of these vehicles.

The fielding of the MRAP family of vehicles occurred in response to an urgent operational need identified by commanders on the battlefield to better protect crews from IEDs, mine blasts, small-arms fire and other threats. These armored vehicles are much larger than the up-armored HMMWVs most Soldiers are familiar with driving and have different steering, handling and maneuverability characteristics. Without proper driver's training, operating MRAP vehicles can be a challenge for Soldiers.

Most MRAP rollover accidents can be attributed to the vehicle being used on narrow, unstable, poorly constructed roads and driven too fast for road conditions. Many roads are unimproved and elevated and run along water

irrigation canals. Some of these roads are barely wide enough for the smaller and lighter up-armored HMMWV to travel safely, so they pose an increased risk to the larger and heavier MRAPs.

Commanders and Leaders in Iraq have implemented guidelines and controls to mitigate the risk of MRAP rollovers based on lessons learned and feedback from other units. Some of the more common guidelines follow:

- Rehearse and execute rollover drills.
- Emphasize crew coordination, particularly in identifying and reacting to hazards.
- Perform route recon to ensure weight classification of bridges, as well as height and width restrictions.
- Alert the entire crew

when operating near canals and waterways.

- Conduct driver's training; ensure operators and crews are well-trained.
- Use ground guides when necessary and feasible.
- Maintain speeds appropriate for road conditions.
- Enforce seat belt and gunner restraint system use.
- Perform risk assessments that address all obstacles along the route of travel and actions at obstacles.
- Do not attempt to cross unrated bridges or canal crossings.
- Use caution when crossing bridges or canal crossings; expect the unexpected.
- Periodically inspect all culverts and bridge foundations to check for unsafe conditions such as damage, tampering and IEDs.



- Report all unsafe crossing points to unit engineers so repairs can be coordinated.
- Ensure roadways are solid, particularly after rains.
- Avoid operating vehicles too close to the shoulder of the road.
- If possible, use more experienced drivers during limited visibility or when operating on dirt roads along waterways.
- Know the weight classification of your vehicle.
- Leaders must ensure drivers are familiar with the capabilities and limitations of their assigned vehicles and assist them in identifying road hazards.

MRAP vehicles were designed to save Soldiers' lives and offer greater protection against enemy threats than ever before. However, Leaders must ensure all personnel who ride in these vehicles receive safety and egress training and are familiar with the characteristics and limitations of the MRAP. Only then will Soldiers truly be Army Safe and Army Strong! ◀

# READY FOR THE RISK?



## GRAT

GROUND RISK ASSESSMENT TOOL

<https://safety.army.mil>

GRAT is easy to use and provides users with accident hazard and control information and assists them in producing an automated CRM worksheet (DA Form 7566) for their mission, task, or activity. Users can save, e-mail, edit or print the worksheet.







# THE DANGERS OF UNIQUE LOADS

COMPILED BY THE KNOWLEDGE STAFF

In this accident scenario, a ground crewmember was fatally injured when a helicopter sling load was released and inadvertently rolled over the Soldier. As with most accidents, a series of critical errors were made before the one that took a life.





“ IF the **CREW** had **USED** the **PROPER MANUAL** for rigging the low-density load, they’d have **REALIZED** they **LACKED** the **PROPER EQUIPMENT** for the mission.”

The mission involved the air movement of a stripped-down aircraft fuselage from one location to another, simulating a downed aircraft recovery (DAR) operation. The fuselage had been used as a fire response trainer in one of the local motor pools. When the fuselage was positioned for the DAR, the crane crew set it up in the same way as in the motor pool with four 18-inch steel tent pegs and four 10,000-pound cargo straps set atop eight 2.5-ton truck tires. The setup was intended to help stabilize and accommodate the boat-shaped bottom of the hulk.

The first critical error took place when the company commander failed to inform the chain of command – notably, the proper approval authority for high-risk

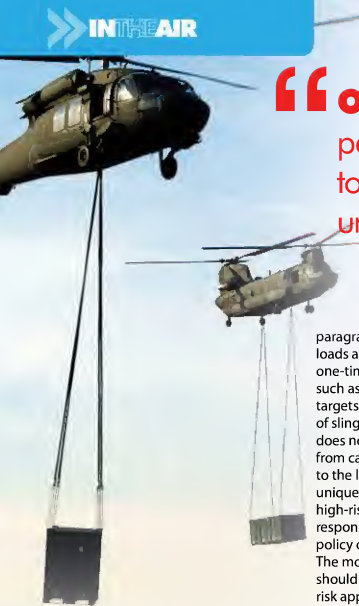
missions – they were going to conduct a nonstandard, low-density, unique load. As a result, the mission wasn’t identified as a high risk for the aircrew and ground crew on the risk assessment worksheet.

Lack of crew experience was the second mistake. The hook-up team was comprised of a staff sergeant, specialist, corporal and private. None of them had rigged a sling load in 10 years – if ever.

The unit’s third critical error was deploying without a complete set of up-to-date publications. If the crew had used the proper manual for rigging the low-density

load, they’d have realized they lacked the proper equipment for the mission.

Another error occurred when the air and ground crews failed to conduct a thorough rehearsal of the necessary actions to take in the event of an emergency. Consequently, they failed to assess the pickup zone before executing the mission. The pickup zone consisted of soil softened by the recent melting of winter snows. Because of this, the steel tent pegs pulled out of the ground and allowed the fuselage to roll three complete turns. Additionally, the tires the fuselage was sitting on



“ **ONLY** the most **EXPERIENCED** personnel **SHOULD** attempt to **RIG** and **INSPECT** a unique load. ”

paragraph 1-2, states: “Unique sling loads are equipment carried on a one-time or low-frequency basis, such as telephone poles, artillery targets or barrier material. The lack of sling load certification in itself does not preclude a commander from carrying a unique load. Due to the lack of rigging procedures, unique loads should be considered high-risk loads. Each service is responsible for determining its policy on carrying unique loads. The movement of unique loads should be approved by the high-risk approving authority. The name and rank of the approving authority should be printed in the bottom right corner of the remarks block on DA Form 7382-R (Sling Load Inspection Record). Only the most experienced personnel should attempt to rig and inspect a unique load. When possible, static lift the load prior to flight.”

Another oversight the unit made was they deployed without the long lines that would have been safer to use when lifting this type load. Since they did not have that option, they had to position personnel on top of the load to conduct the hookup of tandem lines and disconnect the tie-down straps from the top tie-down points of the fuselage. When the helicopter

maneuvered into position over the fuselage, the hook-up crew connected the tandem lines and removed the right-side tie-down straps. The hook-up crew was not familiar with the aircrew’s flight procedure once they released the load because they had not rehearsed the mission with the hook-up crew. When the straps were released, the load became unsteady and rocked back and forth longitudinally.

A member of the aircrew saw the load rock and immediately called for an emergency release of the slings. The pilot of the aircraft then proceeded with his briefed maneuver for a failed hookup and slid off the load. However, when the aircraft lifted, the load was blown over by the rotor wash and started to roll. A Soldier was thrown into the path of the rolling load and crushed.

## Conclusion

The takeaway from this accident scenario is that missions should always have a valid and accurate risk assessment with the approval of the proper risk authority. Units cannot be overly prepared for contingency operations and must consult their higher authority when a change of mission occurs. In addition, units should not conduct missions they are not properly equipped to execute. The depth and accuracy of planning relates directly to mission success.

were 14 inches wide. This raised the center of gravity and gave way when the load shifted.

Field Manual (FM) 10-450-5, *Multiservice Helicopter Sling Load: Dual-Point Load Rigging Procedures*, paragraph 1-5, states: “Low-density equipment with low weight and large surface areas (flat surfaces), such as shelters, empty trailers, pallet loads, boat-shaped items and empty fuel or water drums, are likely to become extremely unstable when flown during sling load operations – even at low airspeeds – and should be flown with extreme caution.”

In addition, FM 4-20.197, *Multiservice Helicopter Sling Load: Basic Operations and Equipment*,

Composite risk management (CRM) should be used for all missions to ensure the commander with the proper approval authority is involved in the decision-making process. The desire for mission accomplishment should never supersede the Army's established methods for mission success via safety through engaged leadership and risk management. For assistance with CRM, go to <https://safety.army.mil> and click on the Composite Risk Management tab for guidance, tools and publications to assist you in safely accomplishing your mission.◀



## Peer to Peer

Make a  
**movie**  
save a life

- 1) Post your video on any social network site (Army YouTube, YouTube, Facebook, MySpace, etc.) during the competition period (Sept. 30, 2008 to March 31, 2009).
- 2) E-mail to [Safe.P2FVideo@conus.army.mil](mailto:Safe.P2FVideo@conus.army.mil) or call commercial: 334-255-1390, DSN: 558-1390, to have your video entered in the competition. You must provide your name, age, phone number or e-mail address, and a link to the video.
- 3) All entries must be submitted no later than 11:59 p.m. Central Time on March 31, 2009.
- 4) A panel will judge video entries and select finalists. Finalists will be notified by e-mail or telephone.

For more information and contest rules for Peer to Peer, go to <https://safety.army.mil/videocompetition>.

**WARNING!**


# WHAT'S YOUR

**FRANK MCCLANAHAN**  
G5  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

# POISON

**S**he didn't expect to find her favorite juice in the plastic bottle under the kitchen sink. Normally, Mommy keeps the sweet red beverage in a different-looking bottle in the refrigerator. But it was surely the same juice she loved. All she knew was that she had been playing hard and was hot and very thirsty. She wanted the juice badly, but Mommy was distracted with a phone call in the other room. She figured she was a "big girl!" now and could get her own juice without bothering Mommy. Boy, wouldn't Mommy be surprised!





A child consumes a household cleaner or toxic substance, thinking it's a familiar beverage because it's similar in appearance; a woman mixes chlorine bleach and ammonia to get the bathroom sparkling clean, but creates toxic gas; a man falls to the ground, violently ill, while spraying his yard with insecticide that was absorbed through his skin because he wasn't wearing the prescribed protective equipment. Most of us have either read or heard about tragic accounts such as these, and they happen more frequently than we might realize.

According to [www.poisonprevention.org](http://www.poisonprevention.org), poison control centers nationwide receive more than 2 million reports of poisonings each year. More than 90 percent of these incidents occur in the home, and the majority of nonfatal poisonings occur in children below the age of 6. What may surprise you, though, is poisoning is one of the leading causes of death among adults.

In an effort to warn Americans about the dangers of poisonings and how to prevent them, Congress established National Poison Prevention Week in 1961, which traditionally occurs the

third week of March. This year's campaign runs March 15 – 21.

With the right advice, poison-proofing a home and protecting the health and well-being of loved ones can be a simple process. Do you know the rooms in your home that are most likely to contain poisonous materials? Here are some ideas on where to begin your home inspection and what you should look for:

- **The kitchen.** This is where you're most likely to find drain cleaner, oven cleaner, detergents and alcoholic beverages.

- **The bathroom.** If you open the door to the vanity cabinet, you probably have toilet bowl cleaner, nail polish and polish remover, mouthwash and other cosmetic items and medications stored here. This is also where many homeowners store chlorine bleach and ammonia, which, as discussed earlier, creates a hazardous gas when mixed together.

- **The bedroom.** This is where you're most likely to find medications.

- **The garage.** Many garages contain pesticides, rust remover, gasoline, antifreeze, motor oil, lamp fuel and degreaser, along with other hazardous materials such as paint thinner.



HAZARD

Now that you have taken the critical first step in identifying the areas where poisonous materials are most likely to be found, here are some safety tips provided by the Consumer Product Safety Commission (CPSC) to further assist in poison-proofing your home and protecting your loved ones:

- Ensure all household chemicals and medicines are kept out of sight and out of reach. This can be accomplished by installing child-proof latches on cabinets located in the kitchen and bathroom.
- After administering medication from a child-resistant container, be sure to close it securely. Although some products come in

child-resistant blister cards, which avoid the need to re-secure, be sure to keep these medications locked up.

■ In the event of a poisoning, call 800-222-1222 immediately. This toll-free number will help put you in touch with the poison control center in your state. America's poison control centers are open 24 hours a day, seven days a week.

■ When hazardous products are in use, never let young children out of your sight, even if you must take them along when answering the phone or doorbell.

■ Be sure to store items in their original containers.



## DON'T FLUSH

Unused or out-of-date medications should never be flushed down the toilet. According to the California State Board of Pharmacy, a recent study revealed that 80 percent of U.S. streams contain small amounts of human medicines. Sewage systems cannot remove these medicines from water that is released into lakes, rivers or oceans, and fish and other aquatic animals have shown adverse effects from the polluted water. Small amounts of medicine have

- Keep the original labels on all product containers and read the labels thoroughly before using to ensure information on correct use and dosage is clearly understood.

- Never place decorative lamps and candles that contain lamp oil in locations where they're accessible to children. Lamp oil can be toxic if ingested.

- Never administer medication in a dark or dimly lit room. Always turn on the light to ensure you are dispensing the correct dosage.

- Avoid taking medicine in front of children. Also, always refer to medicine as

"medicine," not "candy."

- Clean out the medicine cabinet periodically and safely dispose of unneeded and outdated medicines. However, never flush medicine down the toilet (see Don't Flush It! below).

For more information on what you can do to poison-proof your home, please visit the American Association of Poison Control Centers at <http://www.aapcc.org/>; the Poison Prevention Campaign Organization at <http://www.poisonprevention.org/>; and the CPSC at <http://www.cpsc.gov/>.◀



## FLUSH IT!

even been found in drinking water.

To properly dispose of medications at home, follow these steps:

- Keep medicine in its original child-resistant container. Scratch or mark out the patient information on the label.
- Place water into the container with solid medications such as pills or capsules. Then add something nontoxic and unpalatable such as sawdust, kitty litter, charcoal or powdered spices like cayenne pepper.
- Close the container lid and seal it tightly with packing or duct

tape. If discarding blister packs of unused medicines, wrap them in multiple layers of duct tape.

- Place medicine containers in durable packaging that does not show what's inside, such as a cardboard box. Then place the package in the trash close to garbage pickup time.

Some pharmacies also have a medicine "take-back" program. Ask your pharmacist if your pharmacy participates in this program.◀

*Source: California State Board of Pharmacy.*



# SAVED by the HELMET

**CHIEF WARRANT OFFICER 2 BOBBY FITZMAYER**  
Bravo Company, 4th Battalion, 3rd Aviation Regiment "Blackhearts"  
Fort Stewart, Ga.

**E**ver have a day where everything starts great and then turns to crap?

I was riding my Kawasaki YZF 600R to work on a February morning back in 2007. The temperature was a bit cool – about 47 F – so I was wearing my Joe Rocket Ballistic winter suit. I had a 35-mile ride and was enjoying it. The night before, I'd finished my

last progression flight and was now Readiness Level (RL) 1 rated. I was also getting promoted to chief warrant officer 2 that morning, so it was shaping up to be a good day.

However, as someone once said, "The best-laid plans of mice and men ..."

I hadn't gone five miles when I saw a car in the oncoming lane signaling with its left blinker. I expected the worst, so I rolled off

the throttle, expecting the driver to turn in front of me. I was surprised when he stayed put, so I rolled on the throttle and accelerated to between 55 and 60 mph. Well, wouldn't you know it, right then the driver turned in front of me! At 60 mph, I was covering 88 feet per second. With only about 60 feet dividing us, I ran out of room very quickly. I just had time to say, "Oh, crap!" before T-boning the car.



When my bike struck the car, I went flying and took out a window with my head. I then flipped over the car and landed about 30 feet down the road. There was a truck behind me when this happened, and the driver saw everything. Although I initially blacked out, I must have recovered quickly. The truck driver said by the time he stopped and got to me, I was on my feet brushing off myself and asking him how badly my bike was damaged.

The bike was totaled and I probably looked just as bad. I'd broken my right humerus (upper arm), broken and dislocated my right wrist, sprained my left wrist and bruised my pelvis. And that wasn't the worst of it! I'd also damaged just about every nerve from my right shoulder to my right hand, with my radial nerve being the worst. It was 10 months before I was able to raise my right arm. Almost a year and a half after the accident, I still couldn't move my right hand. My repeated surgeries have left me with a titanium rod running the length of my humerus, a screw in my wrist and a 13-inch scar running down my arm from exploratory nerve surgery at Duke University Medical Center, Durham, N.C.

In May 2008, I got more bad news. My broken humerus hadn't healed and I'd need surgery to insert a metal plate and screws. Also, my wrist would require three more surgeries. Needless to say, my flying days are probably over.

Still, as serious as those injuries sound, they could have been much worse. Despite the force of the impact, my protective gear did its job, protecting me from road rash, scrapes and cuts. I still have my jacket, which is still completely usable. My full-face Arai helmet did its job when I took out that window. I didn't suffer a headache, a sore jaw or even a loose tooth.

There is no substitute for the personal protective equipment specially designed for riders. I can't understand why anyone would want to ride wearing only a half-shell helmet, T-shirt, pants and no gloves. I'd rather dress so I'm always prepared for the worst. If that means being a little uncomfortable because of the temperatures, so be it. I'd rather be a little hot and sweaty because of my leather jacket than comfortable in a T-shirt with my arms completely unprotected should I crash. I don't even want to think of how bad my injuries would have been had I not been wearing my gear.

There is a saying among riders that goes, "Dress for the crash – not for the ride." As I found out the hard way, there is a lot of wisdom in that saying. <<



**Mentoring can be fun and set up in various ways. Here are a few examples:**

- Unit-level one-on-one mentorship
- Unit-level riding groups
- Private organization
- Combination unit program and private organization at the installation level
- Non-appropriated fund instrumentality

**Check out the USACRC MMP Web site for some examples of active mentoring programs:**



**<https://safety.army.mil>**



**ARMY SAFE  
IS ARMY STRONG**



# SETTING the STAGE for

**B**ecause of their size and weight, modern military vehicles must be operated with caution by properly trained and licensed crews. These crews must also be supervised by Leaders knowledgeable of the characteristics and limitations of their equipment, as well as the capabilities and limitations of the Soldiers who operate it.

“**COORDINATED** crew **ACTIONS** and effective **COMMUNICATION** can **GO** a **LONG** way **TOWARD ENSURING** the **SAFETY** of the **CREW** and the **ACCOMPLISHMENT** of the **MISSION.**”

We've all heard the clichés and catchphrases – “Haste Makes Waste,” “Drive to Arrive” and “Speed Kills.” These words of wisdom came to be for a reason. If taking an in-depth look at accidents involving tactical military vehicles, one would find that operator errors, including excessive speed for the road conditions, would quickly rise to the top of the list of causal and contributing factors. This fact should prompt Leaders and Soldiers to consider what is more important: getting there as quickly as possible or getting there safely.

Drivers and crews must constantly exercise situational awareness when operating this equipment. Up-armored vehicles are unforgiving of driver errors. When driving at speeds too fast for the road or terrain conditions, abrupt inputs

## FYI

### ROLLOVER PREVENTION IS ALL ABOUT CONTROL

**Crew Coordination** – Driver, senior occupant, gunner and passengers know their responsibilities; remain vigilant; and identify and communicate potential hazards. Conduct rehearsals!

**Observe** your surroundings. Be aware of bridge limitations, low-hanging power lines, soft-shouldered roads and the presence of culverts, canals and ditches.

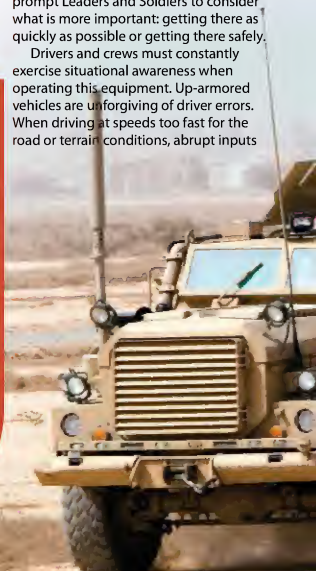
**Never** drive the vehicle beyond its limitations. Avoid abrupt steering, excessive acceleration and panic braking.

**Training** – Conduct mission briefings, rollover drills and crew coordination refreshers before every mission.

**Reduce** speed in turns and on wet or unimproved surfaces.

**Organize** all equipment; ensure everything is securely stored and tied down to avoid projectile hazards in the event of an accident or rollover.

**Leaders** ensure only properly trained, qualified and licensed personnel operate vehicles and equipment. Enforce the use of restraints and personal protective equipment.



# SUCCESS

CHIEF WARRANT OFFICER 4 CHRISTOPHER D. VOLKERT  
Ground Task Force  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

to steering, braking or acceleration may greatly increase the chance of the driver losing control of the vehicle. Collisions with other vehicles in the convoy, local national vehicles or obstacles on the roadway can also result from driving too fast for conditions.

During Operation Iraqi Freedom/ Operation Enduring Freedom, rollover accidents – especially those involving HMMWVs and Mine Resistant Ambush Protected (MRAP) vehicles – have resulted in many fatalities. In several of these cases, an abrupt steering maneuver while traveling at too great a speed resulted in a rollover. Accident avoidance is about having enough time to react to hazards. At higher speeds, reaction times are reduced. All too often, this results in catastrophic damage to equipment,

injuries to personnel or, more tragically, the needless loss of life. Drivers and crews can have a positive impact by remaining aware of their surroundings and communicating important information to the driver and vehicle commander.

checking that all crewmembers and occupants are in the proper uniform, wearing seat belts and ensuring gear is secured makes a difference. Rehearsing rollover drills and other emergency actions helps the crew react quickly and



## DID YOU KNOW?

Enemy tactics, techniques and procedures used in Iraq and Afghanistan during the Global War on Terrorism have necessitated add-on armor and ballistic protection to military vehicles, making them heavier and bulkier. The up-armored variants of the HMMWV – M1151s, for example – now

weigh nearly 12,000 pounds, virtually double the weight of their leaner and more agile M998 ancestors. Variants of the Mine Resistant Ambush Protected (MRAP) vehicle can weigh more than 22 tons and have a higher center of gravity than most vehicles.

By doing so, potential hazards can be identified and avoided.

Crewmembers that are focused on what is going on around them and communicating what they see are, in effect, taking care of their battle buddy. Every set of eyes is required to compensate for the restricted visibility resulting from ballistic windows. No one should just be “along for the ride.”

Leaders can also make a difference. Little things such as

appropriately should the need arise. During the mission, Leaders must actively supervise the driver and assist in identifying potentially weak road shoulders, obstacles and other potential dangers.

The truly concerned Leader will also make adjustments and corrections as needed and not be hesitant in telling the driver to slow down. This ensures the vehicle is being operated safely based on the current conditions. By ensuring drivers are properly trained and licensed, equipment is regularly and properly maintained, each member of the crew completely understands his or her responsibilities and that disciplined driving is practiced, Leaders set the stage for safe completion of the mission.◀

“EVERY person in EVERY SEAT or position IN the VEHICLE has a vested INTEREST in looking out FOR the SAFETY of the ENTIRE CREW.”

# LOOKING OUT FOR MY SON



**JOHN KOLMAN**  
 13  
 U.S. Army Combat Readiness/Safety Center  
 Fort Rucker, Ala.

**W**ho says you can't keep an eye on your kids when they're off somewhere driving?

I was at an auto parts store a couple years ago, looking for an easy way to clear the trouble codes you get when your car's caution lights come on. I was looking at some code scanners when one display caught my attention. The information said that by plugging their chip into my car's onboard diagnostics (OBD) port, I could continuously record my car's driving and engine performance.

Hmm ... it suddenly occurred to me that this could have other possibilities. As a father of a 16-year-old boy who'd just gotten his license, I could use the chip to monitor his driving when I wasn't with him. I bought the chip and the associated software package and went home. Following the instructions, I loaded the software onto my computer and installed the chip in our Dodge Neon. I could set the parameters I wanted to monitor, so I set it to record hard braking, rapid acceleration, maximum speeds and the time and date of any high-speed incidents.

I'd given the Neon to my son to drive to church events and

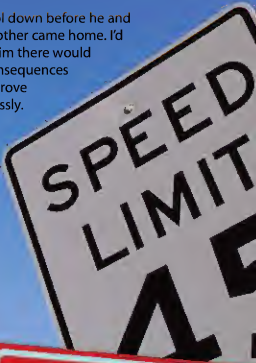
work. I told him about the chip and that I'd be checking it every other week. I also told him the chip would record being removed – basically “rat him out” – so I never had any problem with that.

After a couple of weeks, I downloaded the first bit of data. It showed a lot of hard braking and accelerating – all things new drivers do while gaining experience. Each time I downloaded the data, we'd discuss his driving habits. I was pleased to see there was less of the hard braking and accelerating. However, one day my eye caught something else on the computer. I saw where the Neon had twice exceeded 90 mph! I did a double take on the computer screen. I wondered how this could be – my son seemed to be doing so well at driving safely.

I have to say, this scared me. I checked the calendar and saw the speeding incidents happened about 9:10 p.m. on a Wednesday. At that time, he was driving home from church on a winding country road with a 45-mph speed limit!

Fortunately, I had some time

to cool down before he and his mother came home. I'd told him there would be consequences if he drove recklessly.



Having previously worked as an accident investigator for the U.S. Army Combat Readiness/Safety Center, I'd seen enough fatal vehicle crashes to last a lifetime. While I hated to deal harshly with my son, I knew if I didn't he could wind up dead one day.

Moments later he strolled through the door with his mother. It was "game on" as I sat him down and asked if he had anything to tell me. He gave me the deer-in-the-headlights look and said, "No, sir." He then looked at the car chip lying on the table next to the computer and saw the screen. He said, "I guess I know what you're asking about, Dad." I showed him the two instances where he'd been speeding and asked him to explain. He shrugged his shoulders, apologized and said he didn't know what to say. I scolded him for a few minutes and then sent him to his room while his mother and I contemplated what to do next.

We decided this required some serious discipline. I got on the Internet and downloaded a

preliminary loss report (PLR) from work that showed where a Dodge Neon went out of control, struck a tree sideways at 94 mph and was torn in half. Accident investigators found the driver had suffered a 50-G sideways force that ruptured his heart, liver and right kidney and then threw him 183 feet down the road. I also got statistics on speed-related crashes from the National Highway Traffic Safety Administration's (NHTSA) Web site. In addition, I downloaded graphic pictures of what happens to a human body during a violent crash.

A few hours later, I called him to come down from his room. I showed him the PLR and the crash pictures of the Neon. I showed him the NHTSA speeding fatality statistics for his age group and the grisly accident photos. We talked about what it would be like for us – his family – to have an Alabama state trooper tell us he died in a crash. We told him how hard it would be to have to go to the hospital morgue to identify his body. We talked about the

sadness we'd feel for the rest of our lives every time we walked by his room or saw his pictures.

By the time my wife and I finished, we were all in tears. I took away his driver's license for two months. It was hard for me to do that, but I knew I had to drive the point home about his reckless driving. Although it was hard, it was the right thing to do.

That was a couple years ago and I still check the chip. There's a big difference these days. My son has become a better, safer and more responsible driver. The beauty of the chip was it allowed me to spot a problem and intervene before some state trooper came knocking on my door in the middle of the night.

Do you have teenage kids who are learning to drive? Maybe it's time to consider getting one of these chips so you can monitor their driving. Sure, the chips aren't cheap – I paid \$120 for mine – but what's that next to the cost of a funeral? For a small investment, you just might save someone you love. ❧





COMPILED BY THE KNOWLEDGE STAFF

**T**he Brigade Combat Team (BCT) had just returned from the National Training Center and enjoyed a well-deserved four-day weekend off. During the following week, they conducted recovery operations, including the download and recovery of unit vehicles and military-owned demountable containers (MILVANS) from the installation Railhead Operations Center (ROC). For three days, the ROC recovery operations had proceeded as planned. The final train was due to be downloaded on a Thursday, which was the last duty day before another four-day weekend.

The supporting Combat Service Support (CSS) sustainment command element had requested relief from the last day of railhead operations because there were only four remaining MILVANS to be moved to their respective unit motor pools. In addition, there were other missions that required their recovery assets. The noncommissioned officer in charge (NCOIC) for the CSS element suggested the BCT use organic assets – the M1075 Palletized Loading System (PLS) with

Container Handling Unit (CHU) – to move the four MILVANS. The BCT's movement officer agreed and informed the executive officer (XO) for the battalion in charge of the recovery operation of the change.

The battalion XO notified his support company commander about the change. The next morning, the company commander directed the transportation and cargo platoon leader to dispatch an M1075 PLS with CHU and two Soldiers to the ROC to recover the MILVANS. The cargo

section NCOIC ordered two Soldiers from the section to perform the mission.

The two Soldiers dispatched the equipment and reported to the ROC. Unit personnel at the ROC weren't aware of the change, nor did they have any information about the MILVANS, as they were focused on the BCT's rolling stock. After about an hour, the two Soldiers were shown the location of the MILVANS and began loading and transporting them to their respective motor pools.

During the recovery of the MILVANS, the Soldiers

decided to conduct their own on-the-job training (OJT). The senior Soldier had not received CHU training during his Advanced Individual Training (AIT), so the two Soldiers switched roles as PLS Load Handling System (LHS) operator and ground guide. The Soldiers recovered three of the four MILVANS and returned to the ROC to recover the last MILVAN. All of the BCT's personnel had departed the ROC, as they had completed the download and movement of their rolling stock. The two Soldiers knew



they were the only personnel at the ROC. They decided to disregard the ground guide requirement to the MILVAN ramp and drove straight to the last MILVAN. When they arrived, the junior Soldier dismounted the M1075 PLS and positioned himself to ground guide the CHU to the MILVAN.

As the PLS was unloaded from the PLS, the lower legs of the CHU contacted the PLS rear slider assemblies. The ground guide instructed the PLS operator to stop unloading the CHU and positioned himself directly under the CHU and between the PLS and MILVAN. As the PLS operator watched in his rear-view mirror, he saw the CHU fall off the LHS hook arm and crush the ground guide.

### **Why Did the Accident Happen?**

- The junior Soldier, who was trained on CHU operations during AIT, did not follow the CHU procedures and warnings shown in Technical Manual (TM) 9-2320-364-10. By manually clearing the lower legs of the CHU from the rear slide assemblies of the PLS, the Soldiers violated the troubleshooting procedures in the TM. Also, when the Soldiers initially hooked the CHU on the LHS hook arm, they did not install the bail bar lock and safety pin. When the CHU came in contact with the PLS, the hook arm had depressed enough to disengage from the CHU's bail bar. When the Soldier pulled the lower legs of the CHU to free them from the PLS, the CHU fell and fatally injured the Soldier.

- Company leadership made several basic planning errors contrary to local policy and common leadership practice. Specifically, unit Leaders did not ensure the

presence of any supervision at the MILVAN ramp as the two Soldiers moved unit MILVANS.

- Leaders failed to take appropriate actions to ensure safe operations. That is, Soldiers were routinely not completing unit Preventive Maintenance Checks and Services and Quality Assurance and Quality Checks using the appropriate TMs. Also, risk management tasks were not being conducted and approved at the appropriate levels. In addition, untrained Soldiers were dispatching and using complex equipment. Finally, driver's training was not conducted or documented, thus Leaders were not able to identify qualified operators for specific equipment.

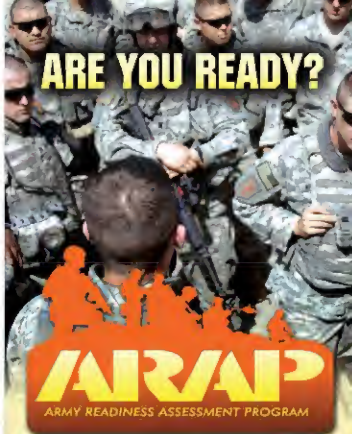
### **How Do You Prevent This Accident in the Future?**

- Ensure Soldiers are properly trained in the use of auxiliary equipment for the vehicle they are operating. Confirm your Soldiers have current training and experience on the equipment to be used.

- Enforce by-the-book operations. The CHU requires 63 steps be completed before connecting to a MILVAN. Do not count on memory recall for tasks that have not been recently performed or trained.

- Accidents can happen during all phases of a mission. Do not become complacent when conducting routine or low-risk missions. Ensure Leaders are present and engaged when Soldiers are performing missions. Leaders must know the standards to enforce safe operations. Do not allow short cuts.

- Ensure risk decisions are made at the proper level by the appropriate authority.◀

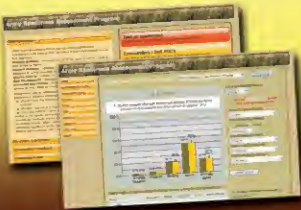


**Wouldn't you like to know if your unit is about to experience a mishap?**

**Wouldn't you like to prevent the loss of personnel and equipment?**

**Don't you want to protect your combat power?**

***ARAP is a Web-based initiative that provides battalion-level commanders with data on their formation's readiness posture.***



**Sign up for your assessment today!**  
**<https://unitready.army.mil>**

# FORKLIFTS

## – Slow But Deadly

AL BROWN

G5

U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.



“All licensed **FORKLIFT OPERATORS** are to be **CERTIFIED** that they understand the **SAFETY ASPECTS** of forklift **OPERATIONS.**”



**H**ere's a quiz: Which four-wheeled vehicle is among the toughest, hardest-working ever made and has, at times, a center of gravity several feet off the ground? If you guessed "monster truck," you'd be wrong. The correct answer is "forklift." Despite the fact forklifts are slow and not very sexy, they demand a lot of attention from their drivers. And if they don't get it, they can hurt you!

While forklifts make work easier, operators and bystanders can be seriously injured or killed if the proper safety protocol is not followed. Because of that, it is vital that forklift operators remain completely inside the cab while operating the equipment. Operators who stick their heads from beneath overhead guards run the risk of being hit by falling objects or striking their head against something outside the cab. And it's not just noggins that are in danger. Forklift drivers also need to keep their hands and feet inside the cab. Protruding limbs are liable to get caught on objects as the forklift passes by, pulling the driver out of the cab and causing serious injuries.

Another important element of forklift safety is operators knowing how much weight the forks can safely handle. Some operators might assume if the forks can lift the weight, it's safe to do so. This is not true and could lead to serious injury if the weight causes the forklift to lose its balance and topple over. Bystanders could also be crushed if the cargo falls off the forks.

In addition, forklift operators need to be aware of their surroundings at all times. Sudden drop-offs, hills, potholes, walls and other obstructions could lead to disastrous consequences for the operator. Bystanders and

forklift drivers also need to stay out of each other's way because a collision could be unforgiving.

Operators must receive site-specific training, as well as instruction on the particular forklift they will be driving. This training must be documented and copies of lesson plans kept on file. In some circumstances, such as an accident or near-miss incident, refresher training should be provided to operators. Otherwise, the performance of all operators must be evaluated at least every three years.

### **Accident Prevention Measures**

Forklift accident prevention is a significant challenge to Army leadership. Operator and material-handling errors are the most hazardous types of forklift accidents. Accident reports have documented operators who were not properly licensed, failed to follow procedures and safety standards, lacked ground guides, worked without supervision for difficult jobs or lacked training for the specific forklift in use. The following is a list of procedures unit Leaders must implement:

- Ensure your Forklift Driver Training Program is to Army standard and enforce the standards set out in Army Regulation 600-55.
- Ensure strict compliance with Occupational Safety

and Health Administration (OSHA) Standard, 1910.178(l) (1), *Forklift Safety Standards*.

- Enforce the use of seat belts when forklifts are in operation.
- Enforce 29 Code of Federal Regulations 1910.178 (Powered Industrial Trucks); if in Germany, BGV D 27 Flurförderzeuge.

Eliminating hazards in the workplace is the right thing to do and makes good business sense. In addition to OSHA compliance, other benefits include reducing injuries for Soldiers and employees, reduced workers compensation rates, lower forklift maintenance costs and less product damage.

All licensed forklift operators are to be certified that they understand the safety aspects of forklift

operations. Certification will be accomplished by their attending a safety class, passing a written test and demonstrating their ability to operate a forklift safely. Before taking a safety class, operators must have a valid state driver's license; a current Defensive Driver's Course (DDC) card; DA Form 348, Equipment Operator's Qualification Record; and OF 346 - U.S. Government Motor Vehicle Operator's Identification Card.

Licensed forklift operators who pass both the written and hands-on portions of the training will receive a forklift certification as follows:

- DA Form 348 - date certification is completed.
- OF 346 - over stamped with class, powered by and capacity of forklift.

Personnel without a forklift license

will be issued a learner's permit — after passing the written test. Personnel with a learner's permit will be required to have a minimum of 30 hours of training with a licensed forklift operator.

Supervisors will submit a memorandum for record that personnel have attained the required hours of training and are capable of operating a forklift without direct supervision.

Personnel with a learner's permit will demonstrate their ability to safely operate a forklift and provide the following documentation:

- DA Form 348 - date certification is completed.
- OF 346 - over stamped with class, powered by and capacity of forklift.

On Sept. 22, 2008, OSHA



**“OPERATOR and material-handling ERRORS are the most HAZARDOUS types of forklift ACCIDENTS.”**



updated its Powered Industrial Trucks (Forklift) eTool, which focuses on the safe operation of forklifts, to prevent employee injury.

The best way to protect Soldiers and employees from injury depends on the type of truck operated and worksite where it is being used, notes OSHA. The eTool specifically provides information on OSHA's Powered Industrial Truck requirements [29 CFR 1910.178] and industry best practices addressing:

- Types and Fundamentals - The differing types and fundamentals of powered trucks
- Operating the Forklift - The basic operating rules and safe work practices
- Understanding the Workplace - How workplace conditions can affect safe operation
- Training Assistance - Operator training required by OSHA

The full text of the new regulations is available through the OSHA Web site at <http://www.osha.gov/>. Leaders and supervisors must continually remind personnel they'll lose every time in an "argument" with a forklift. ◀

## » DID YOU KNOW?

**It is a violation of federal law for anyone under 18 years of age to operate a forklift or for anyone over 18 years of age who is not properly trained and certified to do so.**

*Get the tools and information necessary to be an engaged Leader*

# Leader's CORNER

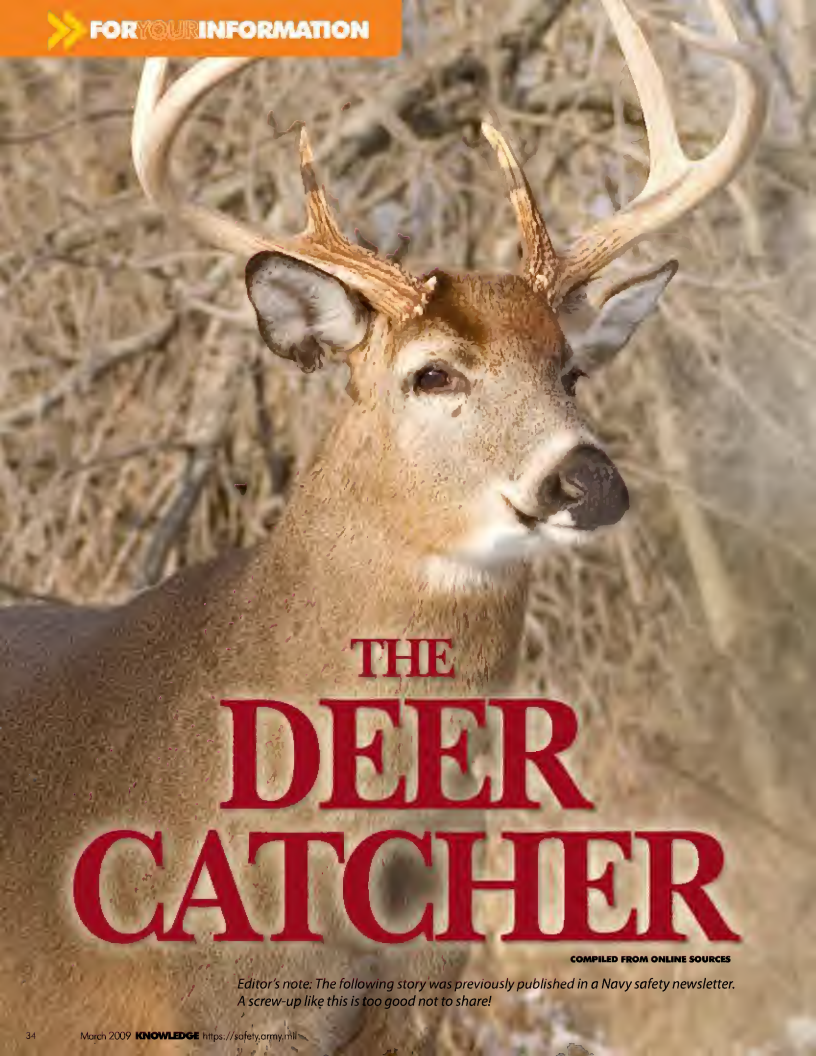
<https://safety.army.mil>

**Keep your Soldiers safe on and off duty. Log on TODAY!**



**ARMY SAFE IS ARMY STRONG**





# THE DEER CATCHER

COMPILED FROM ONLINE SOURCES

*Editor's note: The following story was previously published in a Navy safety newsletter.  
A screw-up like this is too good not to share!*

**The plan:**  
**I had this idea**  
**I was going to**  
**rope a deer, put it in a**  
**stall, feed it corn for a**  
**couple of weeks and**  
**then kill it and eat it.**

### **The Execution**

The first step in this adventure was getting a deer. I'd noticed they congregated at my cattle feeder and didn't seem afraid of me (a bold one would sometimes come up and sniff the feedbags while I was in the back of the truck). I figured it wouldn't be difficult to rope one; toss a bag over its head to calm it down, hog tie it and transport it home. So, I filled the cattle feeder and hid at the far end with my rope. The cattle, having seen the roping thing before, stayed well back. They were not having any of it.

After about 20 minutes, three deer appeared. I picked out a likely looking one, stepped out and threw my rope around it. The deer just stood there and stared at me. I wrapped the rope around my waist and twisted the end so I would have a good hold. The deer still just watched me, but you could tell it was mildly concerned about the whole rope situation.

I took a step toward it... it took a step away. I put a little tension on the rope. It was then the deer decided to give me an "education."

### **The Education**

The first thing I learned is while deer may look at

you funny while you rope them, they don't like it when you tug on that rope – the deer EXPLODED!

The second thing I learned is that, pound for pound, a deer is a LOT stronger than a cow or a colt. A cow or a colt in that weight range I could fight down with a rope and with some dignity. But a deer – no chance! It ran, bucked and twisted and pulled. There was no controlling it and certainly no getting close to it. As it jerked me off my feet and started dragging me across the ground, it occurred to me my idea wasn't working out nearly as good as I'd planned.

The only upside is that deer don't have the stamina of other animals. A brief 10 minutes later, it was tired and not nearly as quick to jerk me off my feet when I tried to get up. It took me a few minutes to realize this since I was mostly blinded by the blood flowing from the big gash in my head. At that point, I had lost my taste for corn-fed venison. I just wanted to get that devil creature off my rope.

That gash and several large knots showed how I'd cleverly arrested the deer's momentum by bracing my head against several large rocks as it dragged me across the ground. Upon reflection, I realized I shared some tiny amount of responsibility for the situation we were in. I didn't want the deer to drag the rope off and maybe suffer a slow death, so I managed to line it up in between my truck and

the feeder. I'd set a little trap there beforehand – a kind of squeeze chute. As I got the deer in there and moved closer so I could get my rope back, the deer administered the next step in my "education."

Did you know that deer bite? They do! I never in a million years would have thought a deer would bite somebody, so I was very surprised when I reached to grab the rope and the deer grabbed hold of my wrist. Now when a deer bites you, it doesn't just bite and let go like a horse. A deer bites you and shakes its head – almost like a pit bull.

The proper thing would probably have been to freeze and draw back slowly – I tried screaming and shaking instead. My method was ineffective. It seemed like the deer bit and shook me for several minutes – but it was likely only several seconds.

I, being smarter than a deer (though you may be questioning that claim by now), decided to try and trick it.

While I kept it busy tearing the crap out of my right arm, I reached up with my left hand and pulled the rope loose. That was when I got my final lesson in deer behavior that day. Deer will rear up and strike at you with their front hooves, which are surprisingly sharp. When a horse does this, the best thing is to make a loud noise and move aggressively toward the animal. That will normally cause them to back down so you can escape.

However, this was a deer and such trickery would not work. In the space of a millisecond, I revised my strategy. I screamed like a woman and tried to turn and run.

Now the reason you don't try to turn and run away from a horse is there is a good chance it will paw you in the head. Maybe deer aren't so different from horses after all, other than being twice as strong and three times as evil. The instant I turned, the deer hit me in the back of the head and knocked me down.

Now, when a deer knocks you down, it does not immediately leave. Maybe it doesn't recognize the danger has passed. Instead, the deer pawed my back and jumped up and down on me while I lay there, crying like a little girl and covering my head.

I finally managed to crawl under the truck and the deer went away. I then understood why people hunt deer with rifles instead of roping them. At least a firearm makes them somewhat equal to their prey!◀

*Do you have a funny story with safety lessons learned? Why not share with your fellow Soldiers? Just send it to [safe.knowledge@conus.army.mil](mailto:safe.knowledge@conus.army.mil).*

# LOST

## AVIATION

### CH-47D



#### CLASS C

During approach to landing for passenger drop-off, the left-front landing gear contacted the ground. Unit maintenance inspection revealed structural, severed landing gear strut, antenna and fuel line damage.

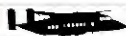
### OH-58D(R)



#### CLASS A

The aircraft crashed into a tower while conducting a recon/security mission. A post-crash fire ensued and both crewmembers suffered fatal injuries.

### C-23U



#### CLASS C

The aircraft touched down with the landing gear in the stowed position.



**WAS THE BEFORE-LANDING CHECKLIST USED? DID THE CREW VERIFY THE GEAR WAS DOWN AND LOCKED?**

## UAS

### RQ-1C



#### CLASS A

The UAS was flown for contract-operator training with contractor oversight when the operator lost link with the one-station unmanned ground control station.



**WAS THERE IMAGERY OF THE LZ PRIOR TO THE MISSION? WAS A LOW LZ RECON CONDUCTED PRIOR TO TOUCHDOWN AND WAS THE LZ SUITABLE?**

## RQ-7B



### CLASS B

■ The UAS experienced engine failure. The flight termination system chute deployed and the UAS crashed.

### CLASS C

■ The UAS experienced an ignition/generator failure at 3,500 feet mean sea level. The recovery chute deployed at 1,300 feet and the system was recovered with damage.

## ACV



### CLASS A

■ A Soldier serving as the gunner in a Mine Resistant Ambush Protected vehicle was killed in a rollover accident during a combat patrol. The driver of the vehicle had attempted a U-turn at a median break when it contacted a curb or road obstacle and overturned. The driver was not injured.

### CLASS B

■ Three Soldiers were hospitalized with various injuries when the M1126 Stryker they were riding in overturned on an improved two-lane road. The remaining Soldiers in the vehicle were treated for their injuries and released.

## AMV



### CLASS A

■ A Soldier was fatally injured when the M1114 HMMWV he was positioning for a roadblock was struck by a local national tractor-trailer. Two Soldiers who were passengers in the HMMWV received non-life-threatening injuries.

■ A Soldier was killed when he was pinned between a HEMMT and a wall. The Soldier was operating

a crane on the back of the HEMMT when the vehicle rolled backward, pinning him.

▶ **WHEN CONDUCTING CRANE OPERATIONS, ARE THE OUTRIGGERS DEPLOYED AND CHOCK BLOCKS IN PLACE?**

## Personnel Injury



### CLASS A

■ A Soldier was swimming underwater in a pool as personal physical training when he failed to surface. Lifeguards pulled the Soldier from the water and he was transported to a hospital. The Soldier was later removed from life support and died.

■ A Soldier drowned when he lost his footing and fell into the water during a dismounted patrol along a riverbank. The Soldier was carried off by the current. His body was later found by a dive team.

## DRIVING

### POV



### CLASS A

■ A Soldier signed out on leave and departed her unit at 12:45 a.m. in her privately owned vehicle. She was traveling on an interstate at 2 a.m. when her vehicle left the road, crossed the median and struck a guardrail. The Soldier was fatally injured.

▶ **LEADERS, DO YOU ENSURE YOUR SOLDIERS HAVE ADEQUATE REST BEFORE DEPARTING ON ROAD TRIPS? WHAT'S YOUR UNIT'S LEAVE POLICY? DOES IT HELP AVOID SITUATIONS LIKE THIS?**

# ARMY >> AVIATION LOSSES

Fiscal 2009

as of Feb. 4, 2009



Class A/Fatalities

|            |     |
|------------|-----|
| ATTACK     | 0/0 |
| RECON      | 2/6 |
| UTILITY    | 2/2 |
| CARGO      | 0/0 |
| TRAINING   | 0/0 |
| FIXED-WING | 0/0 |
| UAS        | 1/0 |

TOTAL 5/8

# ARMY >> GROUND LOSSES

Fiscal 2009

as of Feb. 4, 2009



Class A/Fatalities

|  |      |
|--|------|
| AMV  | 8/9  |
| ACV  | 3/2  |
| PERSONNEL INJURY<br><small>includes weapons-handling accidents</small> | 11/8 |
| FIRE/EXPLOSIVE   | 1/0  |
| PROPERTY DAMAGE  | 0/0  |

TOTAL 23/19

■ A Soldier made a U-turn on a bridge, pulled into the oncoming lane, accelerated and collided with an oncoming pickup. A post-crash fire ensued and the Soldier and the civilian pickup driver were killed. Alcohol was a factor in this crash.

■ A Soldier was on emergency leave from Operation Iraqi Freedom en route to his father's funeral when his vehicle left the road, struck a tree stump and overturned. The Soldier was not wearing his seat belt and was ejected and fatally injured.

■ A Soldier was driving her sport utility vehicle in wet road conditions when she hydroplaned, crossed the median and collided with an oncoming pickup truck. The Soldier suffered fatal injuries.

■ A Soldier was attempting to make a left-hand turn during a yellow light at a controlled intersection when he was struck by an oncoming truck. The Soldier was taken to a hospital, where he later died. He was not wearing his seat belt.

■ A Soldier was traveling 90 mph in a 50-mph zone with a Soldier riding as a passenger when the car left the road and struck a power pole. The driver died at the scene. The passenger was transported to a hospital and listed in stable condition. Both Soldiers were wearing their seat belts.

■ A Soldier was driving a minivan when a vehicle in the oncoming lanes crossed the centerline and hit his vehicle, sending it spinning into another vehicle. The Soldier died at the scene.

■ A Soldier was traveling 90 mph in wet road conditions when she hydroplaned, spun sideways into the oncoming lane and struck a vehicle driven by another Soldier. Neither the Soldier nor her two civilian passengers were wearing their seat belts. They all died in the collision, which tore their car in half. The Soldier in the vehicle they struck was wearing his seat belt and hospitalized in stable condition.

## POM



### CLASS A

■ A Soldier was operating his motorcycle when it started to weave, struck a curb and crashed. The Soldier was responsive at the scene, but later died from his injuries.

■ A Soldier was riding in the company of another Soldier when his sportbike veered off the road and crashed. Although the Soldier was wearing his helmet, he wasn't wearing any other personal protective equipment. He was medically evacuated to a hospital, where he was pronounced dead.

## PEDESTRIAN

### CLASS A

■ Two Soldiers were attempting to cross an interstate highway on foot after dark when one was struck by a passing vehicle. The injured Soldier died at the scene.

■ A Soldier attempting to cross a street early in the morning was struck by a drunk driver. The Soldier was taken to a hospital with critical injuries and died later that morning.

# POV DRIVING LOSSES

Fiscal 2009

of Feb. 4, 2009

Class A/Fatalities

|            |       |
|------------|-------|
| CAR        | 14/14 |
| SUV/JEEP   | 7/7   |
| TRUCK      | 3/3   |
| MOTORCYCLE | 7/7   |
| PEDESTRIAN | 5/5   |
| OTHER*     | 1/1   |

\*Includes: vans and ATVs

DO YOUR SOLDIERS UNDERSTAND WEARING SEAT BELTS WON'T ALWAYS PROTECT THEM IF THEY DRIVE RECKLESSLY?



# 37

## TOTAL DEATHS

Fiscal 2008: 43 3-year average: 38





## GOT PLRs?

The U.S. Army Combat Readiness/Safety Center (USACR/Safety Center) is committed to keeping Army Leaders informed about the accidents and risks facing Soldiers today. One such effort is Preliminary Loss Reports (PLRs), which are released by the USACR/Safety Center following an accidental fatality or other serious accident. The PLR format is the most up-to-date resource for serious accident information.

PLRs are labeled For Official Use Only (FOUO) and are not for release outside military channels. They are archived and available for viewing with an Army Knowledge Online (AKO) login. PLRs are provided to Leaders for accident

prevention purposes, awareness of Army loss as it is experienced and to point out potential trends that affect the Army's combat readiness.

The PLR accident summary is comprised of factual information received through telephonic notifications from the unit, local investigative civil authorities and media coverage collected within the first 48 to 72 hours after the initial accident notification. The intent of the quick turnaround is to support Leaders whose formations could be at risk for a similar accident. In addition, PLRs offer relevant safety discussion points, resources and historical statistics to provide Leaders with engagement tools.

PLR readership includes Department of Defense service secretaries, general officers, brigade commanders, safety professionals and other individual subscribers. About 8,000 personnel receive each PLR and then forward it to subordinates and co-workers. They are posted on organization bulletin boards and read during weekly safety briefings. A PLR scroller, which lists the three most recent PLRs issued, is available for download and can be quickly and easily displayed on other U.S. Army Web sites. Both these services are available through the USACR/Safety Center Web site at <https://safety.army.mil>.

Army strength  
starts Here...

...which gives you  
strength Here.

# Family



engagement kit

<https://safety.army.mil>

Army Safe is Army Strong and that starts with a Soldier's Family. Have the information to help you and your Family stay SAFE. Be prepared and get your own Family Engagement Kit TODAY!



ARMY STRONG



ARMY SAFE  
IS ARMY STRONG

